What is claimed is:

1. A method for depositing a dielectric layer having a multi-layer structure on a substrate, comprising:

forming a first oxidation barrier layer on a surface of a substrate;

forming a first dielectric layer on the first oxidation barrier layer;

forming a second oxidation barrier layer on the first dielectric layer; and

forming a plurality of additional dielectric layers on the second oxidation barrier layer,

wherein one of a plurality of additional oxidation barrier layers is disposed between each of the plurality of additional dielectric layers and an adjacent additional dielectric layer.

2. The method as claimed in claim 1, wherein each of the oxidation barrier layers is formed of a layer of a material selected from the group consisting of groups III, IV, and V metal electrodes and oxides thereof.

3. The method as claimed in claim 2, wherein the metal electrodes are selected from the group consisting of aluminum (Al), tantalum (Ta), titanium (Ti), hafnium (Hf), and zirconium (Zr).

4. The method as claimed in claim 2, wherein the metal oxide is selected from the group consisting of aluminum oxide (Al_2O_3), tantalum oxide (TaO), titanium oxide (TiO_2), hafnium oxide (HfO_2), and zirconium oxide (ZrO_2).

5. The method as claimed in claim 1, wherein each of the oxidation barrier layers has a thickness of between about tens to hundreds of Å.

6. The method as claimed in claim 1, wherein the thickness of each of the oxidation barrier layers is adjustable.

7. The method as claimed in claim 2, wherein metal of the oxidation barrier layer is diffused into adjacent dielectric layers, and the metal is terminated by depositing the dielectric layer and performing a thermal process.

8. The method as claimed in claim 3, wherein metal of the oxidation barrier layer is diffused into adjacent dielectric layers, and the metal is terminated by depositing the dielectric layer and performing a thermal process.

9. The method as claimed in claim 4, wherein metal of the oxidation barrier layer is diffused into adjacent dielectric layers, and the metal is terminated by depositing the dielectric layer and performing a thermal process.

10. The method as claimed in claim 7, wherein the thermal process is performed at a temperature lower than about 700°C.

11. The method as claimed in claim 8, wherein the thermal process is performed at a temperature lower than about 700°C.

12. The method as claimed in claim 9, wherein the thermal process is performed at a temperature lower than about 700°C.

13. The method as claimed in claim 1, wherein each of the oxidation barrier layers is deposited by a chemical vapor deposition (CVD) method.

14. The method as claimed in claim 1, wherein each of the dielectric layers is deposited by an atomic layer deposition (ALD) method or a CVD method.

15. The method as claimed in claim 1, wherein each of the dielectric layers is formed of a material selected from the group consisting of strontium titanate (STO), barium titanate (BTO), barium strontium titanate (BST), lead lanthanium titanate (PLT), lead tantalum zirconium (PLZ), and strontium bismuth tantalite (SBT).